Problems around complements of plane curves

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Given two irreducible curves of the complex projective plane with isomorphic complements, it is natural to ask whether there exists an automorphism of the plane which sends one curve on the other. In 1984, H. Yoshihara showed that the question has a positive answer for a large family of curves, and he conjectured that it would be true in general. However, J. Blanc and P. Costa have recently obtained counterexamples, not only over the field of complex numbers but over any ground field, to this conjecture. The aim of this talk is to give an insight into both the conjecture and the construction of the counterexamples.